Supporting information

Construction of self-supported hierarchical bimetallic sulfide nanosheet arrays for supercapacitors with ultrahigh specific capacitance

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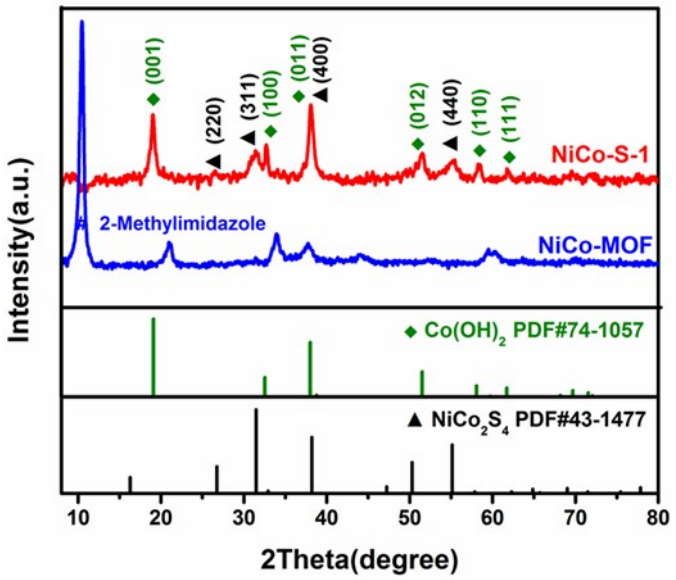

Fig. S1. XRD patterns of samples without Ni foam.

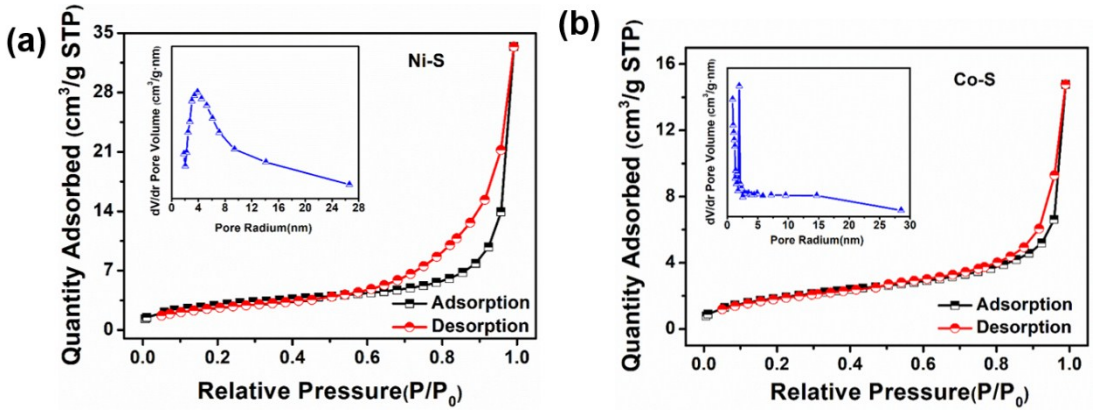

Fig. S2. N_2 adsorption-desorption isotherms and the corresponding pore size distribution of (a) Ni-S and (b) Co-S.

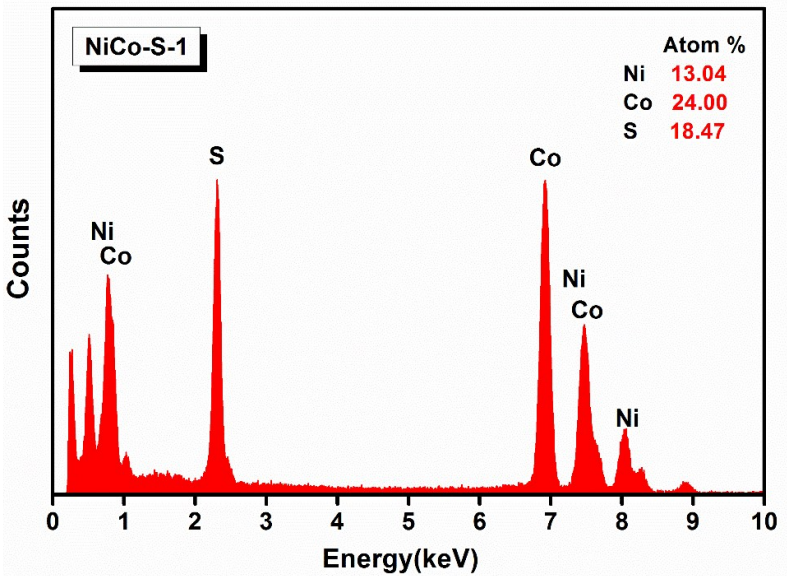

Fig. S3. EDS spectrum of the NiCo-S-1 sample.

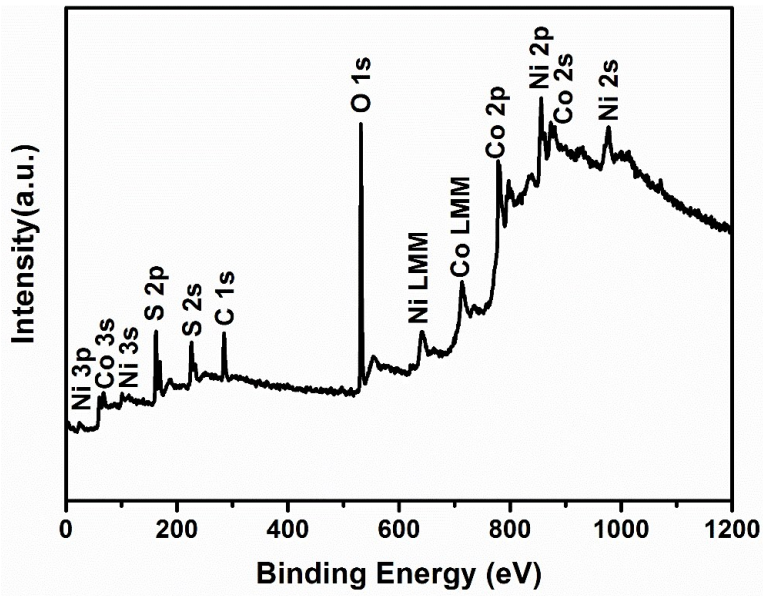

Fig. S4. The XPS full-scan spectrum of NiCo-S-1.

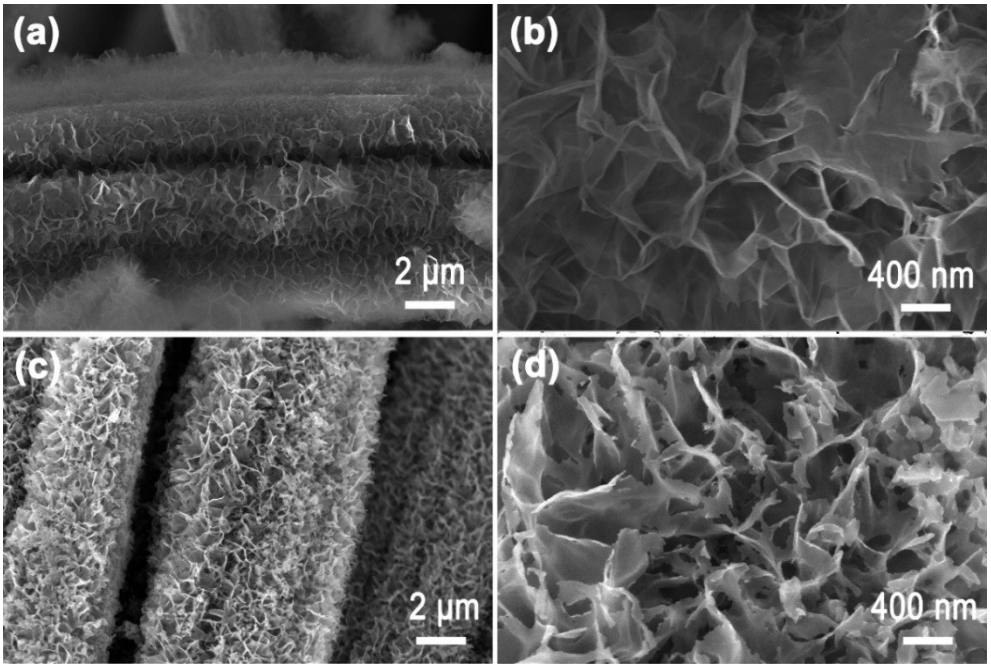

Fig. S5. SEM images of samples (a,b) NiCo-MOF@CC and (c,d) NiCo-S@CC.

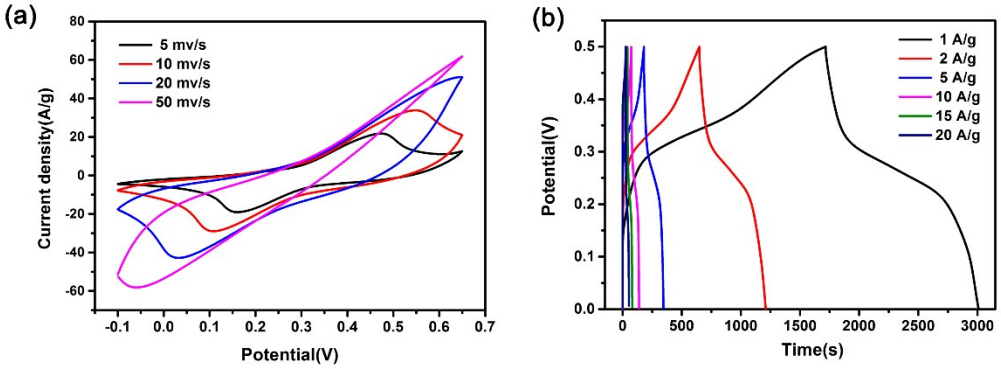

Fig. S6. (a) CV curves at different densities and (b) GCD curves at different current densities of NiCo-S-1 nanosheet arrays on carbon cloth.

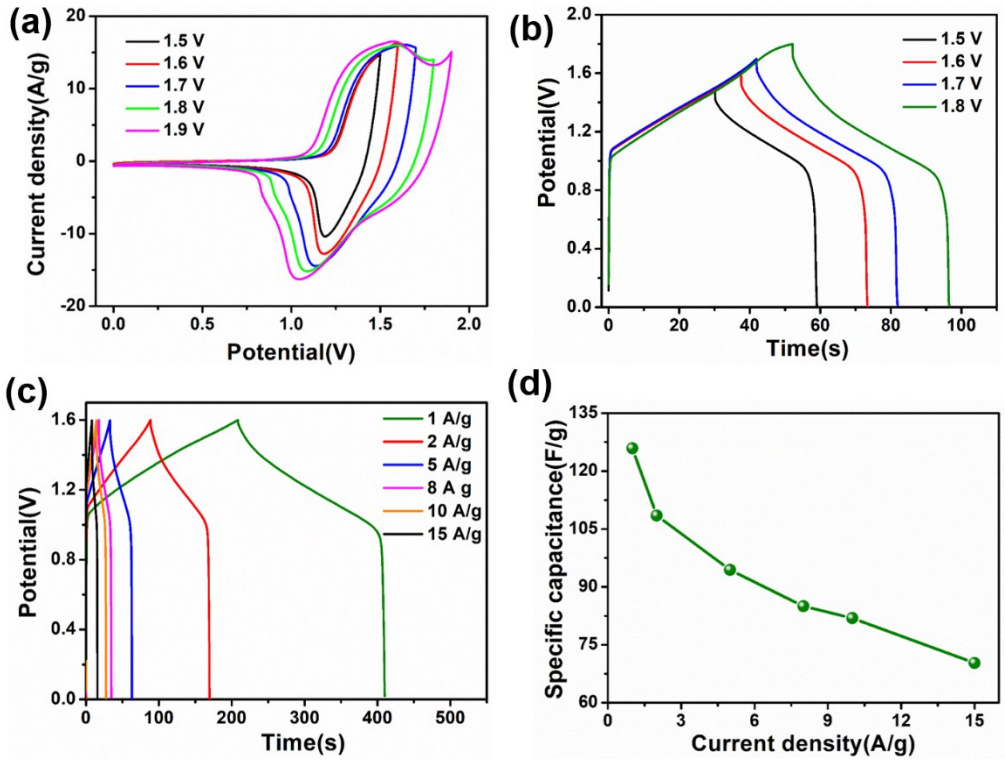

Fig. S7. The electrochemical performance of NiCo-S-1//AC asymmetric supercapacitor. (a) CV curves within different potential windows at scan rate of 50 mV s^{-1}, (b) GCD curves within different potential windows at 5 A g^{-1}, (c) GCD curves at different current densities, (d) specific capacitance at different current densities.

Table S1. Summary of the electrochemical performance on the related electrodes for supercapacitors in literatures.

Electrode materials	Electrolyte	Specific capacitance	Energy density, Power density	ref.
$CuCo_2S_4$–HNN//AC	3 M KOH	2163 F g^{-1} @ 6 mA cm^{-2}	44.1 W h kg^{-1} , 0.80 kW kg^{-1}	[1]
Zn-Co-S//AC	1 M KOH	2354.3 F g^{-1} @ 0.5 A g^{-1}	31.9 W h kg^{-1}, 0.85 kW kg^{-1}	[2]
Ni–Co–S//AC	1 M KOH	1406.9 F g^{-1} , 0.5 A g^{-1}	24.8 W h kg^{-1}, 0.850 kW kg^{-1}	[3]
Ni-Co-S//AC	6 M KOH	2392 F g^{-1} , 1 A g^{-1}	30.1 W h kg^{-1}, 0.800 kW kg^{-1}	[4]
$NiCo_2S_4$//AC	3 M KOH	1956 F g^{-1} , 1 A g^{-1}1	27.5 W h kg^{-1}, 0.747 kW kg^{-1}	[5]
NiV_2S_4//AC	6 M KOH	639 C g^{-1} , 2 mA cm^{-2}	45.1 W h kg^{-1}, 0.240 kW kg^{-1}	[6]
Ni-MOF //AC	3 M KOH	1057 F g^{-1} , 1 A g^{-1}	21.05 W h kg^{-1} ,6.03 kW kg^{-1}	[7]
Ni-Co-S//AC	3 M KOH	1377.5 F g^{-1}, 1 A g^{-1}	36.9 W h kg^{-1} ,1.066 kW kg^{-1}	[8]
$NiCo_2S_4$//AC	3 M KOH	3724 F g^{-1}, 1 A g^{-1}	44.76 W h kg^{-1}, 0.80 kW kg^{-1}	this work

Table S2. The atomic content of Ni, Co, S in the sample NiCo-S-1.

Element	**Ni**	**Co**	**S**
Content(%)	**12.56**	**29.86**	**22.05**

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